

SEQUENCE LISTING

<110> Cedars-Sinai Medical Center

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<120> Mutations in NOD2 are Associated with
Fibrostenosing Disease in Patients with Crohn's Disease

<130> 66783-138

<150> US 60/407,391

<151> 2002-08-30

<150> US 10/356,736

<151> 2003-01-30

<160> 67

<170> FastSEQ for Windows Version 4.0

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 <212> DNA
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 gcaagtgcag ccgctgcagg agcgtgctct tgccactgcc cgcctcacc accaccagca 180
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<210> 8
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 <213> Homo sapiens

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 <212> DNA

<213> Homo sapiens

<400> 9

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tccaagtcac ccagaaagac tcgagtgtcc tctcttgaaa tccaatggtc ttttttcctt 180
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<211> 520

<212> DNA

<213> Homo sapiens

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<212> DNA

<213> Homo sapiens

<400> 11

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<212> DNA

<213> Homo sapiens

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ccatgtagag aaaggatcac ttcttctgtg aaagagaggg tcaaggggtg acccacgtgg 300
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<210> 13

<211> 488

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> 434

<223> n = A,T,C or G

<400> 13

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<210> 14

<211> 491

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> 437

<223> n = A,T,C or G

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<210> 15

<211> 491

<212> DNA

<213> Homo sapiens

<400> 15

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<213> Homo sapiens

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<210> 17

<211> 491

<212> DNA

<213> Homo sapiens

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<223> n = A,T,C or G

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ctgagtctct g 491
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<211> 487

<212> DNA

<213> Homo sapiens

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<213> Homo sapiens

<220>
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<222> 432
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<210> 20
<211> 484
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> 430
<223> n = A,T,C or G

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tttctctggg gccaaagagcaaatgctttgc ttaagtgtg aaatctcagc ccaactgaccc 420
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<210> 21
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<210> 22
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<220>
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<223> n = A,T,C or G

<400> 22
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<210> 23
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<400> 23

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tgaaaccag gccagggcct gagcctggac acctccttcc ttcctgagac cacagccagc 360
ccggtttctc tggggccaag agcaaagtct ttgcttaagt gctgaaatct cagcccactg 420
accccttgca gacnggagag gaggggaagc ccaggggaagc tcaacttccc aagtgtcctg 480
agtctctg                                     488

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<210> 24

<211> 497

<212> DNA

<213> Homo sapiens

<400> 24

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tcactaggct tctggttgat gcctgtgaac tgaactctga caacagactt ctgaaataga 60
cccacaagag gcagttccat ttcatttctg ccagaatgct ttaggatgta cagttatgga 120
ttgaaagttt acaggaaaaa aaattaggcc gttccttcaa agcaaagtgc ttcctggatt 180
attcaaaatg atgtatgttg aagcctttgt aaattgtcag atgctgtgca aatgttatta 240
ttttaaacat tatgatgtgt gaaaactggg taatatattat aggtcacttt gttttactgt 300
cttaagttta tactcttata gacaacatgg ccgtgaactt tatgctgtaa ataactagag 360
gggaataaac tggttgagtca aaacagccat cttccttctg accaaacatt taaaaatatt 420
ctggctgggc acagtggctc acgcctgtaa tcccagcact ttggggaggc gaggtgggca 480
gatcacctga ggttggg                                     497

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<210> 25

<211> 460

<212> DNA

<213> Homo sapiens

<400> 25

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tgacaacaga cttctgaaat agaccacaa gaggcagttc catttcattt gtgccagaat 60
gctttaggat gtacagttat ggattgaaag tttacaggaa aaaaaattag gccgttcctt 120
caaagcaaat gtcttcctgg attattcaaa atgatgtatg ttgaagcctt tgtaaattgt 180
cagatgctgt gcaaagtgtt ttatttttaa cattatgatg tgtgaaaact ggtaaatatt 240
tataggtcac tttgttttac tgtcttaagt ttatactctt atagacaaca tggccgtgaa 300
ctttatgctg taaataatca gaggggaata aactgttgag tcaaaacagc catcttcctt 360
gtgaccaaac atttaaaaat attctggctg ggcacagtgg ctcacgcctg taatcccagc 420
actttgggag gccgaggtgg gcagatcacc tgaggttggg                                     460

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<210> 26

<211> 462

<212> DNA

<213> Homo sapiens

<400> 26

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tctgacaaca gacttctgaa atagaccac aagaggcagt tccatttcat ttgtgccaga 60
atgctttagg atgtacagtt atggattgaa agtttacagg aaaaaaatt aggcggttcc 120
ttcaaagcaa atgtcttcct ggattattca aaatgatgta tgttgagcc tttgtaaatt 180
gtcagatgct gtgcaaagt tattatttta aacattatga tgtgtgaaaa ctggttaata 240
tttataggtc actttgtttt actgtcttaa gtttatactc ttatagacaa catggccgtg 300
aactttatgc tgtaaataat cagaggggaa taaactgttg agtcaaaaca gccatcttcc 360

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ttgtgaccaa acattttaaaa atatttctggc tgggcacagt ggctcacgcc tgtaatccca 420
gcacttttggg aggccgaggt gggcagatca cctgaggttg gg 462

<210> 27

<211> 459

<212> DNA

<213> Homo sapiens

<400> 27

gacaacagac ttctgaaata gaccacacaag aggcagttcc atttcatttg tgccagaatg 60
cttttaggatg tacagttatg gattgaaagt ttacaggaaa aaaaattagg ccgttccttc 120
aaagcaaatg tcttcctgga ttattcaaaa tgatgtatgt tgaagccttt gttaaattgtc 180
agatgctgtg caaatgttat tattttaaac attatgatgt gtgaaaactg gttaatatatt 240
ataggtcact ttgttttact gtcttaagtt tatactctta tagacaacat ggccgtgaac 300
tttatgtctg aaataatcag aggggaataa actgttgagt caaacacagcc atcttccttg 360
tgaccaaaca tttaaaaata ttctggctgg gcacagtggc tcacgcctgt aatcccagca 420
ctttgggagg ccgaggtggg cagatcacct gaggttggg 459

<210> 28

<211> 467

<212> DNA

<213> Homo sapiens

<400> 28

tgaactctga caacagactt ctgaaataga cccacaagag gcagttccat ttcattttgtg 60
ccagaatgct ttaggatgta cagttatgga ttgaaagttt acaggaaaaa aaattaggcc 120
gttccttcaa agcaaatgtc ttcttgatt attcaaaatg atgtatgttg aagcctttgt 180
aaattgtcag atgctgtgca aatgttatta ttttaaacat tatgatgtgt gaaaactggg 240
taatatttat aggtcacttt gttttactgt cttaagttaa tactcttata gacaacatgg 300
ccgtgaactt tatgctgtaa ataatcagag ggggaataaac tgttgagtca aaacagccat 360
cttccttggtg accaaacatt taaaaatatt ctggctgggc acagtggctc acgcctgtaa 420
tcccagcact ttgggaggcc gaggtgggca gatcacctga ggttggg 467

<210> 29

<211> 467

<212> DNA

<213> Homo sapiens

<400> 29

tgaactctga caacagactt ctgaaataga cccacaagag gcagttccat ttcattttgtg 60
ccagaatgct ttaggatgta cagttatgga ttgaaagttt acaggaaaaa aaattaggcc 120
gttccttcaa agcaaatgtc ttcttgatt attcaaaatg atgtatgttg aagcctttgt 180
aaattgtcag atgctgtgca aatgttatta ttttaaacat tatgatgtgt gaaaactggg 240
taatatttat agrtcacttt gttttactgt cttaagttaa tactcttata gacaacatgg 300
ccgtgaactt tatgctgtaa ataatcagag ggggaataaac tgttgagtca aaacagccat 360
cttccttggtg accaaacatt taaaaatatt ctggctgggc acagtggctc acgcctgtaa 420
tcccagcact ttgggaggcc gaggtgggca gatcacctga ggttggg 467

<210> 30

<211> 466

<212> DNA

<213> Homo sapiens

<400> 30

gaactatgac aacagacttc tgaaatagac ccacaagagg cagttccatt tcattttgtg 60

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cagaatgctt taggatgtac agttatggat tgaaagttaa caggaaaaaa aattaggccg 120
ttccttcaaa gcaaatgtct tcctggatta ttcaaaatga tgtatgttga agcctttgta 180
aattgtcaga tgctgtgcaa atgttattat tttaaacatt atgatgtgtg aaaactgggt 240
aatatttata grtcactttg ttttactgtc ttaagtttat actcttatag acaacatggc 300
cgtgaacttt atgctgtaaa taatcagagg ggaataaact gttgagtcaa aacagccatc 360
ttccttgtga ccaaacattt aaaaatattc tggctgggca cagtggctca cgcctgtaat 420
cccagcactt tgggaggccg aggtgggcag atcacctgag gttggg 466

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<210> 31

<211> 466

<212> DNA

<213> Homo sapiens

<400> 31

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gaactctgac aacagacttc tgaaatagac ccacaagagg cagttccatt tcatttgtgc 60
cagaatgctt taggatgtac agttatggat tgaaagttaa caggaaaaaa aattaggccg 120
ttccttcaaa gcaaatgtct tcctggatta ttcaaaatga tgtatgttga agcctttgta 180
aattgtcaga tgctgtgcaa atgttattat tttaaacatt atgatgtgtg aaaactgggt 240
aatatttata grtcactttg ttttactgtc ttaagtttat actcttatag acaacatggc 300
cgtgaacttt atgctgtaaa taatcagagg ggaataaact gttgagtcaa aacagccatc 360
ttccttgtga ccaaacattt aaaaatattc tggctgggca cagtggctca cgcctgtaat 420
cccagcactt tgggaggccg aggtgggcag atcacctgag gttggg 466

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<210> 32

<211> 460

<212> DNA

<213> Homo sapiens

<400> 32

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tgacaacaga cttctgaaat agaccacaa gaggcagttc catttcattt gtgccagaat 60
gctttaggat gtacagttat ggattgaaag tttacaggaa aaaaaattag gccgttcctt 120
caaagcaaat gtcttcctgg attattcaaa atgatgtatg ttgaagcctt tgtaaattgt 180
cagatgctgt gcaaatgtta ttattttaaa cattatgatg tgtgaaaact ggtaaatatt 240
tatagrtcac tttgttttac tgtcttaagt ttatactctt atagacaaca tggccgtgaa 300
ctttatgctg taaataatca gaggggaata aactgttgag tcaaaacagc catcttcctt 360
gtgaccaaac atttaaaaat attctggctg ggcacagtgg ctacgcctg taatcccagc 420
actttggggag gccgaggtgg gcagatcacc tgaggttggg 460

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<210> 33

<211> 467

<212> DNA

<213> Homo sapiens

<400> 33

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tgaactctga caacagactt ctgaaataga ccacaagagg gcagttccat ttcatttgtg 60
ccagaatgct ttaggatgta cagttatgga ttgaaagttt acaggaaaaa aaattaggcc 120
gttccttcaa agcaaatgtc tcctggatt attcaaaatg atgtatgttg aagcctttgt 180
aaattgtcag atgctgtgca aatgttatta ttttaaacat tatgatgtgt gaaaactggg 240
taatatttat aggtcacttt gttttactgt cttaagttta tactcttata gacaacatgg 300
ccgtgaactt tatgctgtaa ataatcagag ggaataaact tgttgagtca aaacagccat 360
cttccttgtg accaaacatt taaaaatatt ctggctgggc acagtggctc acgcctgtaa 420
tcccagcact tgggaggccg gaggtgggca gatcacctga ggttggg 467

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<210> 34

<211> 460

<212> DNA
<213> Homo sapiens

<400> 34

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tgacaacaga cttctgaaat agaccacaa gaggcagttc catttcattt gtgccagaat 60
gcttttaggat gtacagttat ggattgaaag ttacaggaa aaaaaattag gccgttcctt 120
caaagcaa atgtcttcctgg attattcaaa atgatgtatg ttgaagcctt tgtaaattgt 180
cagatgctgt gcaaatgtta ttattttaaa cattatgatg tgtgaaaact gggttaatat 240
tatagatcac tttgttttac tgtcttaagt ttatactctt atagacaaca tggccgtgaa 300
ctttatgctg taaataatca gaggggaata aactgttgag tcaaacacgc catcttcctt 360
gtgaccaa acatattaaa atctctggctg ggcacagtgg ctcacgcctg taatcccagc 420
actttgggag gccgaggtgg gcagatcacc tgaggttggg 460
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<210> 35
<211> 462
<212> DNA
<213> Homo sapiens

<400> 35

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tctgacaaca gacttctgaa atagaccac aagaggcagt tccatttcat ttgtgccaga 60
atgcttttagg atgtacagtt atggattgaa agtttacagg aaaaaaatt aggccgttcc 120
ttcaaagcaa atgtcttcct ggattattca aaatgatgta tgttgaaagg tttgtaaatt 180
gtcagatgct gtgcaaatgt tattatttta aacattatga tgtgtgaaaa ctgggttaata 240
tttatagatc actttgtttt actgtcttaa gtttatactc ttatagacaa catggccgtg 300
aactttatgc tgtaaataat cagaggggaa taaactgttg agtcaaaaaca gccatcttcc 360
ttgtgaccaa acatattaaa atattctggc tgggcacagt ggctcacgcc tgtaatccca 420
gcactttggg aggccgaggt gggcagatca cctgaggttg gg 462
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<210> 36
<211> 463
<212> DNA
<213> Homo sapiens

<400> 36

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ctctgacaac agacttctga aatagaccca caagaggcag ttccatttca tttgtgccag 60
aatgcttttag gatgtacagt tatggattga aagtttacag gaaaaaaat taggccgttc 120
cttcaaagca aatgtcttcc tggattattc aaaatgatgt atgttgaaag ctttgtaaat 180
tgtcagatgc tgtgcaaatg ttattatttt aaacattatg atgtgtgaaa actgggttaat 240
atttatagrt cactttgttt tactgtctta agtttatact cttatagaca acatggccgt 300
gaactttatg ctgtaaataa tcagagggga ataaactgtt gagtcaaaac agccatcttc 360
cttgtgacca aacattttaa aatattctgg ctgggcacag tggctcacgc ctgtaatccc 420
agcactttgg gaggccgagg tgggcagatc acctgaggtt ggg 463
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<210> 37
<211> 17
<212> DNA
<213> Homo sapiens

<400> 37

ggtggctggg ctcttct

17

<210> 38
<211> 24
<212> DNA
<213> Homo sapiens

<400> 38
ctcgcttcct cagtacctat gatg 24

<210> 39
<211> 21
<212> DNA
<213> Homo sapiens

<400> 39
ctggctgagt gccagacatc t 21

<210> 40
<211> 17
<212> DNA
<213> Homo sapiens

<400> 40
ggcgggatgg agtggaa 17

<210> 41
<211> 21
<212> DNA
<213> Homo sapiens

<400> 41
ccacctcaag ctctggtgat c 21

<210> 42
<211> 23
<212> DNA
<213> Homo sapiens

<400> 42
gttgactctt ttggcctttt cag 23

<210> 43
<211> 23
<212> DNA
<213> Homo sapiens

<400> 43
ccttaccaga cttccaggat ggt 23

<210> 44
<211> 25
<212> DNA
<213> Homo sapiens

<400> 44
tgtccaataa ctgcatcacc tacct 25

<210> 45
<211> 13
<212> DNA

<213> Homo sapiens

<400> 45

catggctgga ccc

13

<210> 46

<211> 13

<212> DNA

<213> Homo sapiens

<400> 46

catggctgga tcc

13

<210> 47

<211> 13

<212> DNA

<213> Homo sapiens

<400> 47

tgctccggcg cca

13

<210> 48

<211> 14

<212> DNA

<213> Homo sapiens

<400> 48

ctgctctggc gcc

14

<210> 49

<211> 16

<212> DNA

<213> Homo sapiens

<400> 49

ctctgttgcc ccagaa

16

<210> 50

<211> 15

<212> DNA

<213> Homo sapiens

<400> 50

ctctgttgcg ccaga

15

<210> 51

<211> 15

<212> DNA

<213> Homo sapiens

<400> 51

ctttcaaggg cctgc

15

<210> 52

<211> 15

<212> DNA
 <213> Homo sapiens

<400> 52
 cctttcaagg ggcct 15

<210> 53
 <211> 16
 <212> DNA
 <213> Homo sapiens

<400> 53
 aagactcgag tgcct 16

<210> 54
 <211> 16
 <212> DNA
 <213> Homo sapiens

<400> 54
 agactcaagt gtcctc 16

<210> 55
 <211> 533
 <212> DNA
 <213> Homo sapiens

<400> 55
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 tgttggcagc ctcttcaaaa tgagccctgt cctgcctaag gctgaacttg ttttctggga 120
 acaccatagg tcacctttat tctggcagag gaggagagcat cagtgccttc caggatagac 180
 ttttcccaag cctacttttg ccattgactt cttcccaaga ttcaatccca ggatgtacaa 240
 ggacagcccc tcctccatag tatgggactg gcctctgctg atcctcccag gcttcctgtg 300
 ggggtcagtgg ggcccatgga tgtgcttggt aactgagtgc cttttggtgg agaggcccgg 360
 cctctcacia aagaccctt accactgctc tgatgaagag gactacacag aacacataat 420
 tcaggaagca gctttcccca tgtctcgact catccatcca ggccattccc cgtctctggt 480
 tcctccctc ctctggact cctgcacacg ctccttctc tgaggctgaa att 533

<210> 56
 <211> 497
 <212> DNA
 <213> Homo sapiens

<400> 56
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 taaggctgaa cttgttttct gggaacacca taggtcacct ttattctggc agaggaggga 120
 gcatcagtgc cctccaggat agacttttcc caagcctact tttgccattg acttcttccc 180
 aagattcaat cccaggatgt acaaggacag cccctcctcc atagtatggg actggcctct 240
 gctgatectc ccaggcttcc gtgtgggtca gtggggccca tggatgtgct tgtaaactga 300
 gtgccttttg gtggagaggc ccggcctctc acaaaagacc ccttaccact gctctgatga 360
 agaggagtac acagaacaca taattcagga agcagctttc cccatgtctc gactcatcca 420
 tccaggccat tccccgtctc tggttcctcc cctcctcctg gactcctgca cacgctcctt 480
 cctctgaggc tgaaatt 497

<210> 57

<211> 497
<212> DNA
<213> Homo sapiens

<400> 57
gggccccaga ggctgggtga catgtgttgg aagcctcttc aaaatgagcc ctgtcctgcc 60
taaggetgaa cttgttttct gggaacacca taggtcacct ttattctggc agaggagggga 120
gcatcagtgc cctccaggat agacttttcc caagcctact ttggccattg acttcttccc 180
aagattcaat cccaggatgt acaaggacag cccctcctcc atagtatggg actggcctct 240
gctgaccttc ccaggcttcc gtgtgggtca gtggggccca tggatgtgct tgttaactga 300
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agaggagtac acagaacaca taattcagga agcagctttc cccatgtctc gactcatcca 420
tccaggccat tccccgtctc tggttcctcc cctcctcctg gactcctgca cacgctcctt 480
cctctgaggg tgaaatt 497

<210> 58
<211> 497
<212> DNA
<213> Homo sapiens

<400> 58
gggccccaga ggctgggtga catgtgttgg cagcctcttc aaaatgagcc ctgtcctgcc 60
taaggetgaa cttgttttct gggaacacca taggtcacct ttattctggc agaggagggga 120
gcatcagtgc cctccaggat agacttttcc caagcctact ttggccattg acttcttccc 180
aagattcaat cccaggatgt acaaggacag cccctcctcc atagtatggg actggcctct 240
gctgaccttc ccaggcttcc gtgtgggtca gtggggccca tggatgtgct tgttaactga 300
gtgccttttg gtggagaggg ccggcctctc acaaaagacc ccttaccact gctctgatga 360
agaggagtac acagaacaca taattcagga agcagctttc cccatgtctc gactcatcca 420
tccaggccat tccccgtctc tggttcctcc cctcctcctg gactcctgca cacgctcctt 480
cctctgaggg tgaaatt 497

<210> 59
<211> 483
<212> DNA
<213> Homo sapiens

<400> 59
gggtgacatg tgttggcagc ctcttcaaaa tgagccctgt cctgcctaag gctgaacttg 60
ttttctggga acaccatagg tcacctttat tctggcagag gaggagcat cagtgccttc 120
caggatagac ttttcccaag cctacttttg ccattgactt ctccccaaga ttcaatccca 180
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gcttccgtgt gggtcagtgg ggcccatgga tgtgcttgtt aactgagtgc cttttggtgg 300
agaggcccg cctctcacia aagaccctt accactgctc tgatgaagag gactacacag 360
aacacmtaat tcaggaagca gctttcccca tgtctcgact catccatcca ggccattccc 420
cgtctctggt tcttcccttc ctctggact cctgcacacg ctcttctctc tgaggctgaa 480
att 483

<210> 60
<211> 500
<212> DNA
<213> Homo sapiens

<400> 60
tttgggcccc agaggctggg tgacatgtgt tggcagcctc ttcaaaatga gccctgtcct 60
gcctaaggct gaacttgttt tctgggaaca ccataggtca cctttattct ggagagggag 120


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ggagcatcag tgccctccag gatagacttt tcccaagcct acttttgcca ttgacttctt 180
cccaagattc aatcccagga tgtacaagga cagccctcc tccatagtat gggactggcc 240
tctgctgata ctcccaggct tccgtgtggg tcagtggggc ccatggatgt gcttggttaac 300
tgagtgcctt ttggtggaga ggcccggcct ctcacaaaag accccttmcc actgctctga 360
tgaagaggag tacacagaac acataattca ggaagcagct ttcccatgt ctcgactcat 420
ccatccaggc cattccccgt ctctggttcc tccctcctc ctggactcct gcacacgctc 480
cttcctctga ggctgaaatt

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<210> 61

<211> 499

<212> DNA

<213> Homo sapiens

<400> 61

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ttgggccccca gaggtgggt gacatgtgtt ggcagcctct tcaaaatgag ccctgtcctg 60
cctaaggctg aacttgtttt ctgggaacac cataggtcac ctttattctg gcagaggagg 120
gagcatcagt gccctccagg atagactttt cccaagccta cttttgccat tgacttcttc 180
ccaagattca atcccaggat gtacaaggac agccctcct ccatagtatg ggactggcct 240
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gagtgccttt tgggtggagag gcccggcctc tcacaaaaga ccccttmcca ctgctctgat 360
gaagaggagt acacagaaca cataattcag gaagcagctt tcccatgtc tcgactcatc 420
catccaggcc attccccgtc tctggttctc cccctcctcc tggactcctg cacacgctcc 480
ttcctctgag gctgaaatt

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<210> 62

<211> 498

<212> DNA

<213> Homo sapiens

<400> 62

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tgggccccag aggctgggtg acatgtgttg gcagcctctt caaaatgagc cctgtcctgc 60
ctaaggctga acttgttttc tgggaacacc ataggtcacc tttattctgg cagaggaggg 120
agcatcagt cctccagga tagacttttc ccaagcctac ttttgccatt gacttcttcc 180
caagattcaa tcccaggatg tacaaggaca gcccctcctc catagtatgg gactgggctc 240
tgctgatcct cccaggcttc cgtgtgggtc agtggggccc atggatgtgc ttgttaactg 300
agtgcctttt ggtggagagg cccggcctct cacaaaagac cccttmccac tgctctgatg 360
aagaggagta cacagaacac ataattcagg aagcagcttt ccccatgtct cgactcatcc 420
atccaggcca ttccccgtct ctggttctc cctcctcctt ggactcctgc acacgctcct 480
tcctctgagg ctgaaatt

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<210> 63

<211> 498

<212> DNA

<213> Homo sapiens

<400> 63

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tgggccccag aggctgggtg acatgtgttg gcagcctctt caaaatgagc cctgtcctgc 60
ctaaggctga acttgttttc tgggaacacc ataggtcacc tttattctgg cagaggaggg 120
agcatcagt cctccagga tagacttttc ccaagcctac ttttgccatt gacttcttcc 180
caagattcaa tcccaggatg tacaaggaca gcccctcctc catagtatgg gactggcctc 240
tgctgatcct cccaggcttc cgtgtgggtc agtggggccc atggatgtgc ttgttaactg 300
agtgcctttt ggtggagagg cccggcctct cacaaaagac cccttmccac tgctctgatg 360
aagaggagta cacagaacac ataattcagg aagcagcttt ccccatgtct cgactcatcc 420
atccaggcca ttccccgtct ctggttctc cctcctcctt ggactcctgc acacgctcct 480
tcctctgagg ctgaaatt

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<210> 64
<211> 498
<212> DNA
<213> Homo sapiens

<400> 64
tgggccccag aggctgggtg acatgtgttg gcagcctctt caaaatgagc cctgtcctgc 60
ctaaggctga acttggtttt tgggaacacc ataggtcacc tttattctgg cagaggaggg 120
agcatcagtg ccctccagga tagacttttc ccaagcctac ttttgccatt gacttcttcc 180
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